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THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. II.—No. 3.] Philadelphia, September 1, 1837. [Whole No. 27.

Blight in Pear Trees.

It will be recollected by many of our readers, that the Horticultural Society of this city, at its last anniversary meeting, offered a premium of Five Hundred Dollars to the person who shall discover and make public an effectual remedy for the disease denominated Blight, to which pear trees have been subject for some years past. A number of communications, from all sections of the country, have been forwarded to the Society. These communications have been made mostly by intelligent gentlemen, with a view of preserving and more successfully propagating the pear,—they have been placed in our hands, and we shall from time to time publish such as are deemed interesting, and conducive to the great object contemplated by the Society in offering the premium.

—

Prince Edward, Va., May, 1837.

A Preventive of the Blight in Pear Trees.

The preventive is the simplest imaginable,—it is not to prune the trees, or break up the ground underneath them; but on the contrary, to let the ground be trampled. The facts from which I come to the above conclusion are the following:—

1st. There were in my grandfather's yard two pear trees, which have been bearing trees from my earliest recollection, say forty years. I am now the occupant of his house and yard. These two trees are now as healthy as they ever have been. The yard has always been trampled by calves and horses.

2d. There was a row of four trees in a lot adjoining the yard, which was occasionally cultivated; these trees have blighted more or less whenever the lot has been cultivated. Two of them have died with the blight; the other two have been several times very much injured by it, but since I have ceased to cultivate the lot, they have been flourishing trees.

3d. I grafted in the year 1821 about twenty pear trees. They remained in the nursery until 1824; they were then planted in a lot adjoining my yard, which lot was cultivated three years in succession in tobacco. Most of the trees during those three years, blighted more or less—some blighted within a foot of the ground. I then levelled the ground on which they were planted, and moved my fence so as to enclose them in the yard. Such as had been nearly destroyed by blight, I enclosed with a pen of rails, in order to keep off the calves which graze the yard, until the trees had grown sufficiently high not to be injured by them. These twenty trees are now all healthy, and there has been no appearance of blight since I cultivated the lot, except in one tree that was enclosed by one of my servants in a garden, in which he cultivated vegetables—that tree blighted and died.

I would recommend that pear trees be planted in a rich soil, (I would prefer the site of an old dwelling,)—that they be ploughed and worked a few years, even at the risk of blighting; and after that, that they be neither pruned nor ploughed. If they require manure, let it be applied to the surface. Ashes I think an excellent manure. Let the pear orchard be grazed by small cattle, until the trees are of sufficient size to admit of being grazed by larger without injury. I think it would be proper to keep down coarse weeds, briers, sprouts, &c. I am well convinced that there are some hardy native pear trees that may be pruned and ploughed without being subject to blight; but I feel confident, that most of the finest kinds of pears

would thrive best under the treatment I have described. I know too, that there is a difference in soils; and that the same mode of treatment may not suit all situations. But those who have not succeeded in raising pear trees, might try my method. My opinion is, that the blight is produced by the excessive flow of sap, and that pruning and fallowing produce that effect. If, however, I had pear trees growing on hard poor land, I would fallow and manure; preferring rather to risk the blight, than let the tree die with poverty; but when I had sufficiently manured, I would then cease fallowing.

Henry N. Watkins.

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Poplar Grove, E. S. Maryland, April 20th, 1837.

Dear Sir,—I observe by the newspapers, that the Horticultural Society of Philadelphia are very anxious to detect the cause of the blight in pear trees, and to ascertain a remedy; and for this purpose, they have offered a reward to be adjudged three years hence.

I am a great lover of this delicious fruit, and have mentioned to several of my friends the confident belief, that I have detected the cause of the blight; and seeing your advertisement, I am induced to trouble you with a view of it, that your Society may make experiments to test that which, every succeeding year since, I first formed the opinion, has only tended to confirm.

Various causes have been assigned for the *blight*, by practical and scientific persons; some have thought the old delicious French varieties of virgoulese, jargonelle, arib, bonchretien, &c. &c., have lived out their day, and are disposed to expire with the termination of the life of the parent stock; and generally, perhaps, this malady is ascribed to the influence of the electric fluid. I am perfectly satisfied, that premature death by blight is not confined to *older sorts;* some seedlings with me have died as suddenly and as unexpectedly, sometimes a limb at a time, and sometimes the entire tree.

From many years experience and observation, I am satisfied that the cause of *blight* and destruction in the pear and apple tree, is almost always from what the French term *coup de sol*, (stroke of the sun.) This stroke of the sun occurs generally in the hottest weather, and when the earth is dry. It proceeds from intense heat in the atmosphere, when there is an absence of moisture for the roots—sometimes from intense heat without an absence of moisture. To obviate this, what is the remedy?—select when you can a *moist*, but not a wet soil, and allow your pear trees to stand in a position where they can be sheltered by tall dense forest trees, exactly on the *south and west*, or by some other shelter of a *house* or *hill*. The hottest part of the day is about 3 o'clock, when the sun is in the south and west, and any member of your Society may find without waiting three years to ascertain the facts, that in every orchard of pear or apple trees, open and sloping to the *west*, there is more destruction in those trees *than can be found in any other exposure.* I assert this fact, other circumstances being equal, without the fear of being found in error. I have made the observation within the last twenty years, some hundreds of times.

It is my opinion that no perfect defence can be made against the effects of our hot suns on apple and pear trees, unless a great umbrella could be supplied, and *periodically, and properly, used for each tree.* It may not generally be known, that a pear tree besides being healthy, will bear very well in a very dense forest. A thicket sheltered by high trees on the south and west, and a moist soil, are in this climate their proper localities, according to my opinion, founded on experience.

Your obedient servant,

Thomas Emory.

P. S. I will mention a fact which occurred with me ten or fifteen years ago, and the tree is still living. In the month of July or August, when the earth was very *dry*, and the weather *intensely hot*, I discovered one evening that a pear tree, which stood near the house, was evidently stricken with death. The leaves wilted and hung, as those would on a tree severed from the stump. I had before believed that excessive heat, and a want of moisture, would produce this effect. The tree was allowed to stand over untouched till the *next evening*, when it was regarded as being *dead.* I determined to experiment on it, and had a large cart load of wet sea weed hauled up and spread in every direction, 7 or 8 feet from the body of the tree, and then threw on some forty or sixty gallons of water. The tree as suddenly revived, and is still living, being sheltered by some tall lombardy poplars, since grown up, immediately on the south and west. The leaves next morning were filled with sap and distened. T. E.

Destruction of Insects by Tobacco Water.

In the process of preparing tabacco for use, a liquid is expressed from it, which is very cheap, and highly destructive of animal life. This mixed with from three to five parts of water, is found by a writer in the Transactions of the London Horticultural Society, to be an effectual remedy for the aphis caterpillars, and similar insects which infest fruit trees.

For the Farmers' Cabinet.

"Does the Pith of the Horn waste, yea or nay?"—Improving a worn out Soil.

Observer, in his last number, has favored us with his opinions upon "tail evil," for the purpose, it seems, of making another push at the *horns;* for he concludes by *observing*, "that the hollow horn is the natural state of the horn; so is the tail evil the natural state of the tail."

Here I shall only remark, as I did with the piths, that I see no reason why the tail should be exempt from disease; why it should never be "ill," and leave Observer to amuse himself with his odd stories about the tail, while I peep a little further into the horns.

Observer seems to attach some considerable importance to a knowledge capable of discriminating between a rotten and a sound horn. "It is," he says, "often a nice and delicate observation in pathology, to determine the question." Now where is the use of throwing mystery over a plain matter of fact in this way, "a nice and delicate observation" to tell the difference between putrid animal matter, (for the bones are animal matter,) and that which is sound. Some people might be *too nice and delicate* to make the observation, but as to the knowledge, a boy of eight years old, that could not tell the difference at the first glance, or even at the first action of his olfactory nerve, would, in common parlance, be called a *green horn.*

There is some acknowledgement due to Observer, for doubting my statement of facts in relation to this matter; 'tis true, there is something flattering in having one's statements doubted; but still it is so different from contradiction, that I am willing to receive it as an omen of more agreeable manners in future.

Observer next assumes the office of preceptor; he "will inform Subscriber what he probably does not know." To this I have no objection, for I love to know things, and am willing to learn of any one. "Bony caries or rotting, (he says,) is an ulceration of living bones, produced by the action of the absorbent vessels, which take up and carry off the bony matter." Truly, this is what I did not know, nor am I aware of any reason why I should be supposed to know it, for I presume such information is not generally possessed by men either of scientific or ordinary knowledge.

This action of the absorbent vessels may, in one sense, be considered the consequence, but never the cause of disease. So far is the action of the absorbent vessels from producing ulcerations, that it removes them, or more properly speaking, separates the living from the dead matter.

Observer might as well say that medicine produces the disease it is intended to cure, as to say that bony caries is produced by the action of the absorbent vessels.

A dose of calomel and opium does not produce the dysentery when it cures it; neither does the action of the absorbent vessels produce ulcerations when it releases them from the living parts of the body.

The action of the absorbent vessels is the natural effect of a healthy organization; it never produces disease of any kind. Bony caries originate, like all other diseases, from the various casualties and accidents to which animal beings are liable; the absorbent vessels are in constant action, and approach the disease as near as the laws of organised life will permit, and simply leaves the sanies or filthy matter to ooze out of the wound in thin acrid discharges. Observer will perhaps say this is not always the case, and I wish to save him the trouble by a little further explanation. The bone is sometimes diseased without an external issue, and sometimes the orifice making this ichorous discharge heals up. I know a young man, who, a few years ago, had a diseased finger with an issue of acrid matter, but the orifice closed up, and the absorbents carried away the diseased bone until his finger was reduced about half an inch in length.

I think it useless to follow up Observer's "very nice and delicate observations in pathology," through all the varied changes of decomposition, for it would be no difficult matter to show by a parity of reasoning that there is no rotting in the horn, nor in any thing else. Simple substances, oxygen, hydrogen, carbon, &c. never rot; horns are constituted of those simple atoms of matter; therefore, horns never rot. I understand the pith of a horn to be rotten when the action of the surrounding elements has entirely changed its form, and produced decomposition in its prominent features.

Since my last essay was sent to the Cabinet, I have been engaged in the *agreeable hardship* of harvesting a heavy crop of grain and hay, which, with other engagements, has deprived me of leisure sufficient to examine an additional lot of horns which I designed to do, previous to sending any further statement of facts to the Cabinet. As an apology, therefore, of this neglect, I will transcribe from my Farm Ledger, a three year's history of an old worn out field, being part of a farm purchased in 1834.

This field, in the spring of 1835, presented one of the most dreary prospects to the eye of the farmer that can well be imagined. Corn had been the last crop which was estimated at seven bushels to the acre, and the whole amount of verdure then upon the field

appeared insufficient for half a dozen sheep the summer season, and not as much manure in the barn-yard as would dress a common sized garden. Every thing necessary to improve this field had to be purchased; it was, therefore, no difficult matter to know the expense. The manure is all carried out at the cost delivered upon the field, and the field is credited with all the produce, except the pasture, at the cash prices in Wilmington, about 1¼ miles distant.

1835. FIELD, No, 3.	Dr.	1835. PER CONTRA.	Cr.
1st mo. 1.			
500 bushels of lime at 20 cents,	$100 00	300 bu. of corn at 80 cents,	$240 00
150 cart loads of manure at $1 25 per load,	187 50	175 bu. of potatoes at 30 cents,	52 50
200 bu. of bone dust at 30 cts. pr. bu.	60 00	1836. 96¼ bu. of wheat at $2 00,	193 00
100 bu. of ground oyster shells,	15 00	10 loads of corn fodder,	15 00
75 cart loads of manure at $1 25,	93 75	9 loads of wheat straw,	18 00
Clover and Timothy seed,	12 00	3 months pasture for 8 cattle,	24 25
15 bu. of seed wheat,	22 50	1837.	
Cost of 10 acres of land,	480 00	31½ tons of hay at $14 00,	437 50
	$970 75		$980 25

The interest account against the field is not carried out, but the second crop now growing will considerably more than balance it, leaving the field to stand against the labor of cultivating three crops and taking them to market. It will be seen that the profits of this operation has all grown out of the manure. I have been thus particular, in order to obtain a knowledge of the value of worn out lands in the vicinity of manure. Stone lime can be had from the Schuylkill, and leeched ashes, bone dust, glue makers' offall, comb makers' shavings, and other kinds of strong manure will bear shipping from Philadelphia and Baltimore, up the creeks and inlets of the Delaware and Chesapeake Bay. More again on this subject.

Subscriber.

For the Farmers' Cabinet.

Agricultural Implements.

No. XI.

Subterranean Draining Machine.

A machine for this purpose is used to advantage where stones, (the usual materials,) cannot be procured to make subterranean drains; the following description will explain the principle of the machine, and its operation. Suppose a standard passing down through a plough beam to a proper depth, and terminating at the lower extremity in a conical form with the point in advance, and with the base or hind end sufficiently large to make an opening in the ground of the required dimensions, when forced through it. The point may go two or three inches in advance of the standard, and the fore (or anterior) part of the standard be made sharp, and the remainder of such dimensions as the force to be applied may require, and the whole be composed of cast iron, and confined to the beam by keys.

The following dimensions will probably be sufficiently strong for four horses, or eight hundred pounds, viz:

Depth from the beam to the lower extremity, one foot.

Width of the standard, ten inches.

Thickness of the hind edge, one inch.

Horizontal length of lower extremity, one foot.

Diameter of large end of lower extremity, two and a half inches. Or instead of the lower extremity being of a conical form, it may be of a pyramidal or any other form that circumstances may require.

With a machine of this description, subterranean drains may be made at the rate of several miles per hour, with no expense except four horses and two men, besides the machine, which need not cost more than an ordinary plough, so that an acre of ground crossed in squares of two or three feet each way, would cost but little in the operation.

Oxen as well as horses, can be used to advantage to draw it.

August 1st, 1837.

For the Farmers' Cabinet.

An expeditious manner of producing Trees and Shrubs.

This consists in surrounding a branch or limb of a tree with earth, and keeping it sufficiently moist to receive the roots formed on this part of the branch, and girdling the branch by degrees during one season of its growth between this part and the body of the tree, immediately adjoining the part surrounded by the earth.

Suppose a cubical box of three inches square, composed of thin boards nailed together, and a horizontal branch passed through holes in the middle of two opposite sides, and the remainder of the box filled with vegetable mould, (say decayed leaves from the woods,) passed into it by an opening in the upper side. If the rain that falls upon the upper side of the box be insufficient to keep the earth within it sufficiently moist, more water may be added (by hand) when required; or a thin board with the edges higher than the middle, may be placed on the box to extend beyond the edges, so as to collect a sufficient quantity of rain water. A small part of the bark is cut through, and in the course of a few days another small por-

tion, and thus continued during the season, until the branch is completely surrounded, and a small ring or circle of bark removed. At a suitable time for transplanting, the branch may be cut entirely off, and treated afterwards as young trees usually are when transplanted; the sides of the box surrounding the earth and roots are removed previously to transplanting. Dry gourds, with holes formed in them while green, answer in the place of boxes.

Peach and other trees, where a *hard strong bark* is desirable, may be produced in this manner to advantage; also *thorns* for *live fences*, where the value of the plant is in proportion to the number of thorns upon it; another advantage arises from the short space of time required to produce an orchard, or shade trees. The branches that would otherwise require to be cut away to preserve the proper form of the parent tree, might be selected to a considerable extent for this purpose. *Sugar Maple* and many other trees, are now in great demand, with which the above method is certainly worth a trial.

P.

2nd August, 1837.

We have received another communication from "A Farmer," in relation to the controvery heretofore carried on in our columns between "Observer" and "A Subscriber." We give below all that part of the communication that relates to the point in dispute—and we are satisfied that our correspondent will see the propriety of our omitting all that had not a direct bearing on the subject. The controversy has already run through several numbers; we now wish to collect all the *facts* regarding the disease, and dispose of it as speedily as possible.

For the Farmers' Cabinet.

Hollow Horn.

Hollow horn (understood as the name of a disease,) is nothing more nor less than an inflammation of the horn; it may exist without the horns being hollow, just in the same way that the yellow fever may exist without any *yellow* symptoms being observable. The name of the disease is the name of its effect; but says Observer, "horns are always hollow." This assertion might be as correctly made in relation to any other substance whatever; the pith of the horn is porous, and so is every thing else—a sound horn is certainly not a hollow one, in the common acceptation of the term.

Early in the investigation, Observer congratulated himself on having completely overturned the "whole boring system;" subsequent observations, however, convinced him that boring was sometimes advisable, and in this latter conclusion, he is correct. I would not recommend the remedy for every complaint which may happen to be called the hollow horn; the "*hollow gut*," (to use a vulgar expression,) is best treated in the manner proposed in your last paper, by a "Montgomery County Farmer." We are told that the disease is unknown in England; be this as it may, the remedy is well known there, and appears to be often in request. Dr. Cooper, an *Englishman*, a Philosopher, and one of the most accurate observers, in his remarks upon the disease, considers it the effect of cold in animals, insufficiently fed. He recommends the usual remedy.

A Farmer.

For the Farmers' Cabinet.

The Heedless Farmer.

The reader has long since been apprised of the fact that farming has become a science, worthy the attention of the most noted men in the present age. Some have labored ingeniously to bring it to perfection, and many have occupied themselves in writing on it. Every intelligent person will readily admit that the study thereof, is in all cases, interesting—and causes him with emotion to repeat that well known sentence, "how wonderful are the works of nature." But the heedless farmer cares not to concern himself about the pleasure it affords, nor the substantial enjoyments accruing from a practical an l scientific knowledge of that which so intimately concerns his welfare.

Brother farmer, let us pass by his habitation, and place the scrutinizing eye thereon, and see if we cannot learn a lesson that will be of advantage to us in time to come. Although it is possible for us to wander from the path of prudence into the the ways of selfishness, so far as to have too exalted opinion of ourselves, we nevertheless trust in some degree to the information derived from agricultural works. If the heedless farmer would settle his mind down into sober and serious reflection, he would soon become a genuine and honorable husbandman. Neither could it any longer be said by the passer by, that every thing around him assumed a dingy appearance, he would no longer be regarded as a century behind the times, he would keep pace with the improvements of the age—and by all intelligent farmers, whose favorable opinion is worth possessing, be highly commended for his reformation. A poor idea, indeed, is it for a farmer to say he cannot find time to do "this thing or that," but

Solomon says that there "is a time for all things." Now admitting the wise man's proverb to be true, you can find sufficient time, if attended to in proper season, to do every thing that is urgent,—time for the total extermination of all noxious and hurtful plants—time to place your work in such a position as to have the upper hand of it constantly. If to your own disadvantage you pursue the wrong path, you may depend upon it, as I heard an experienced farmer say, that "*he that letteth his work drive him is a slave.*" A Clover Ridge Farmer.

Pemberton, N. J., August 20, 1837.

For the Farmers' Cabinet.

Oat Stubble.

How often do you plough your oat stubble? With some it is the custom to plough once, with some twice, and others three times. The object of this short essay is, to inquire which of the three methods is the most beneficial to the farming interest; and the only true method of arriving at that conclusion, is from the observation of facts. Those persons with whom it is the custom to plough their oat stubble but once, may be set down as an indolent set of men, having little regard for the improvement of either mind, body or estate. The writer of this has observed, in some of the finest land of Pennsylvania, where this method has been pursued, a miserable deterioration of crops: and notwithstanding being sufficiently manured, yet it produced a very inferior crop of wheat; and as for timothy and clover, they scarcely deserved the name of a crop, being entirely superseded by a worthless natural grass and weeds, with which the ground had become entirely overspread. By ploughing oat stubble but once, the soil does not become sufficiently pulverized and intermixed; the roots of natural grass and weeds are suffered to remain too much in an undisturbed condition, and carry on all their process of vegetation, until they entirely occupy the soil, to the exclusion of that which would be more beneficial to the farmer.

Ploughing oat stubble but twice for wheat, (or that which is to be manured,) has its objections also. In the first place, if the manure is hauled and spread before it is ploughed, those deleterious substances, (weeds, grass, briers, &c.) are so long permitted to gain strength, and become so permanently attached to the soil, that the two subsequent ploughings will not be sufficient to eradicate them; and secondly, if the ground is ploughed before the manure is hauled out, the tracts beaten by the team, will plough up in coarse clods in a very unfit state for receiving the seed, and which no after tillage will sufficiently pulverize.

Now the inquiry comes, what will be the best method? Let the stubble be ploughed as soon as possible after the crop is taken off. This will immediately check the growth of grass, weeds, &c. Then let the harrow be passed over to pulverize the surface, after which the manure may be hauled out, spread and ploughed in immediately, to prevent loss by evaporation. Pass the harrow over again. Before seeding, let the ground be ploughed again, when it will be found to be completely pulverized and intermixed, and grass and weeds totally destroyed. Where this method has been adopted, it has been found to be superior to all others.

It must be, and is admitted by all practical agriculturists, that the better the soil is pulverized, the better condition it is in for producing a plentiful crop. Hence, by this method, there is not only a more certain warrant for a good crop of wheat, but grass has been found invariably to succeed better than in either of the other methods. After the crop of wheat is harvested, the grass in the stubble affords excellent pasture for cows, being free from weeds, which frequently gives butter an unpleasant flavor.

If those who have never made trial of this system were once induced to adopt it, I am certain they would be convinced of the truth of the positions here asserted, and find themselves not only amply, but doubly rewarded for all additional labor. A.

Chester county, Aug. 26, 1837.

From the Genesee Farmer.

Questions respecting the economy of cutting up Corn—topping cornstalks should not be practised.

It has, we think, been sufficiently ascertained, that when corn is injured by an early frost, cutting it up contributes nothing to its relief, and nothing to its subsequent improvement. It is, we think, better in such cases, not to molest it, for unless the frost be a very deadly one, the corn will still derive nutriment from the stalks and leaves. There is another question related to this which we think merits the attention of agriculturists. The question is this: Is it, in general, good practice to cut up corn at all, or to cut up the stalks while the ears are attached to them? We are not for war, and if we were disposed to answer this question in the negative, we should scarcely dare do it, knowing as we do, that this would bring us into conflict with almost universal opinion. We will, however, suggest certain considerations, and leave the question to be adjudicated and settled by our readers.

1. Cutting up corn at any time before the leaves are fully dead, does undoubtedly injure the crop in some degree, affecting it probably both as to quantity and quality.

2. When corn is cut up, and the stalks secured in the best manner that they can be, it rarely fails that some of them get down, and thus both the corn and stalks are damaged by exposure to the weather. If it were not so, the large buts and stems of the stalks are of little value for fodder, for no sort of stock will eat them, unless compelled to it by dire starvation.

3. If the stalks be left standing in the field, cattle wll consume quite as great a portion of them in the field after the corn is gathered, as they would if they had been cut and gathered to the barn.

4. As materials for dung, stalks cannot be disposed of to better advantage, than to be allowed to remain where they grew, and there be mixed with the soil, as is usually done by subsequent tillage.

5. Cutting up and securing a well grown crop of corn, is a heavy and toilsome labor, involving, together with the subsequent ingathering of the stalks, no trifling item of expense.

If these things be true, is it, in general, good practice to cut up corn at all? In times of threatened scarcity of winter feed for stock, it may be, and probably is, wise and prudent to do it, in the vicinity of cities and large villages, where fodder commands high prices.

In agitating the question thus far, we have supposed that the stalks, if they were cut and gathered to the barn, were to be given to stock, without further cutting, or any other preparation. In the case of farmers who have good cutting apparatus to prepare their stalks for the use of animals, the question may assume an entirely varied aspect.

With a few occasional exceptions, our practice for several years has been, to let our corn remain unmolested, until the time of harvesting it. Sometimes we have cut up and gathered the stalks after the corn has been separated from them. This, when corn is harvested early, can be done to advantage, and if cutting be practiced at all, we think this is the better way. More generally we have left our stalks to be depastured in the fields where they grew.

The advantages of practicing as we have done, are supposed to consist, 1st. In a greater quantity and quality of corn. 2d. In exemption from much toilsome and expensive labor.

The only loss known to result from this practice, consists in the inferior quality of the stalk to be consumed as fodder. It does not appear that, as to quantity, there is any loss, for cattle will consume as great a portion of the stalks, while depasturing in the field, as they would if they had been cut, as is usually practised, and given out in the barn-yard. Neither does it appear that any thing is lost in connection with the economy of manures. Or if there be any loss in this article, certainly it is very small.

We offer these remarks for the consideration of farmers. The question is, are the advantages which, in ordinary cases, result from cutting up corn while yet in a state of imperfect maturity, sufficient to balance the damages which it does to the crop, and the expenses of doing it?

Hitherto we have said nothing relative to the practice of topping cornstalks, which formerly prevailed almost universally and prevails now to some extent. The economy of this practice has been the subject of so many experiments, and so much light in regard to it has of late been gained and disseminated in the public journals, that it seems scarcely necessary to reagitate the subject. By many well conducted experiments, it has been proved most conclusively, that topping the stalks of corn, while as green as to be worth topping, essentially injures the crop, often causing a reduction equal to one-fifth of its value. Among enlightened farmers, the practice of topping has fallen into general disrepute, and as it is most clearly an unprofitable practice, it should be entirely abandoned.

DAN BRADLEY.

Marcellus, Aug. 1827.

Culture and Manufacture of Silk.

In the cultivation of the Mulberry and the rearing of the silk worm, there are no difficulties which cannot be over-come with very little study and observation. So simple and easy is the management of the worm, that children can readily be taught to give it all the assistance and attention necessary to its comfort and the completion of its labors. We reared the silk worm ourself for three years, when a boy, and we can truly say that it was the most amusing employment we were ever engaged in. We have ever reverted to the time, as the most pleasant of our childhood. From two trees that were planted when the Mulberry was first introduced into New England, we reared from five to six thousand worms of a season, and without any of the knowledge which is to be obtained from books of foreign writers on the subject, or of the practical information which has been sent forth to the American public within the past few years. Our own experience induces us to advise all those who are fond of innocent, pleasant, and at the same time profitable employment, to turn their attention to the culture of the Mulberry and the rearing of the silk worm. Our climate and soil are well adapted to the business, and those who engage in it will be abundantly rewarded for their labors.—*Calhoun county Patriot.*

Fig. 8. The New Leicester.

As a lowland sheep, and destined to live on good pasture, the New Leicester is without a rival—in fact he has improved, if he has not given the principal value to, all the other long-woolled sheep.

The head should be hornless, long, small, tapering towards the muzzle, and projecting horizontally forwards. The eyes prominent, but with a quiet expression. The ears thin, rather long, and directed backwards. The neck full and broad at its base where it proceeds from the chest, but gradually tapering towards the head, and being particularly fine at the junction of the head and neck; the neck seeming to project straight from the chest, so that there is, with the slightest possible deviation, one continued horizontal line from the rump to the poll. The breast broad and full; the shoulders also broad and round, and no uneven or angular formation where the shoulders join either the neck or the back, particularly no rising of the withers, or hollow behind the situation of these bones. The arm fleshy through its whole extent, and even down to the knee. The bones of the legs small, standing wide apart, no looseness of skin about them, and comparatively bare of wool. The chest and barrel at once deep and round; the ribs forming a considerable arch from the spine, so as in some cases, and especially when the animal is in good condition, to make the apparent width of the chest even greater than the depth. The barrel ribbed well home, no irregularity of line on the back or the belly, but, on the sides, the carcass very gradually diminishing in width towards the rump. The quarters long and full, and, as with the fore-legs, the muscles extending down to the hock; the thighs also wide and full. The legs of a moderate length, the pelt also moderately thin, but soft and elastic, and covered with a good quantity of white wool, not so long as in some breeds, but considerably finer.

This account combines the main excellences both of Bakewell's own breed, and Culley's variety or improvement of it. It is precisely the form for a sheep provided with plenty of good food and without any great distance to travel or exertion to make in gathering it.

The principal recommendations of this breed are its beauty and its fulness of form, comprising, in the same apparent dimensions, greater weight than any other sheep; an early maturity, and a propensity to fatten equalled by no other breed; a diminution in the proportion of offal, and the return of most money for the quantity of food consumed.

The sheep whose portrait is represented in the previous cut, belonged to the Duke of Bedford.

THE SOUTH-DOWN.

The hill sheep is adapted to more elevated situations and shorter feed on the natural and permanent pastures; able also to travel, without detriment, a considerable distance to the fold and to the down. There can be no hesitation in fixing on the South-Down as the model here.

The following is the substance of the de-

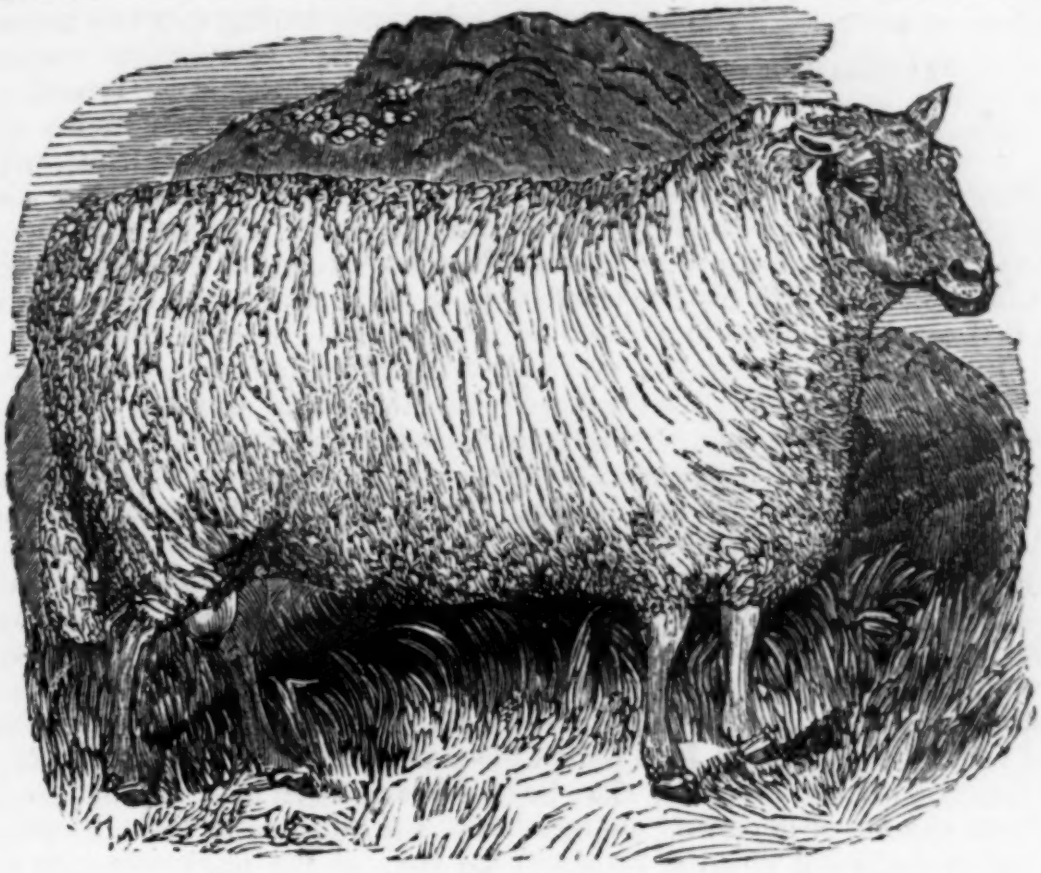

Fig. 9. The Chevoit.†

scription of this sheep by Mr. Ellman, who, if he may not be considered, like Mr. Bakewell with regard to the Leicesters, as founder of the breed, yet contributed more than any other man to its present improvement and value.

The head small and hornless; the face speckled or grey, and neither too long nor too short. The lips thin, and the space between the nose and the eyes narrow. The under jaw, or chap, fine and thin; the ears tolerably wide, and well covered with wool, and the forehead also, and the whole space between the ears, well protected by it, as a defence against the fly.

The eye full and bright, but not prominent. The orbits of the eye—the eye-cap, or bone,—not too projecting, that it may not form a fatal obstacle in lambing.

The neck of a medium length, thin towards the head, but enlarging towards the shoulders where it should be broad and high, and straight in its whole course above and below. The breast should be wide, deep, and projecting forwards between the fore legs, indicating a good constitution, and a disposition to thrive. Corresponding with this, the shoulders should be on a level with the back, and not too wide above; they should bow outward from the top to the breast, indicating a springing rib beneath, and leaving room for it.

The ribs coming out horizontally from the spine, and extending far backward, and the last rib projecting more than the others; the back flat from the shoulders to the setting on of the tail; the loin broad and flat; the rump long and broad, and the tail set on high and nearly on a level with the spine. The hips wide; the space between them and the last rib on either side as narrow as possible, and the ribs, generally, presenting a circular form like a barrel.

The belly as straight as the back.

The legs neither too long nor too short. The fore-legs straight from the breast to the foot; not bending inward at the knee, and standing far apart both before and behind; the hocks having a direction rather outward, and the twist, or the meeting of the thighs behind, being particularly full; the bones fine, yet having no appearance of weakness, and of a speckled or dark color.

The belly well defended with wool, and the wool coming down before and behind to the knee, and to the hock; the wool short, close, curled, and fine, and free from spiry projecting fibres.

The South-Down is adapted to almost any situation in the midland part of England; it has a patience of occasional short keep, and an endurance of hard stocking, equal to any other sheep; an early maturity, scarcely inferior to that of the Leicesters, and the flesh finely grained, and of peculiar good flavor.*

THE CHEVOIT.

The inhabitant of a still more elevated region and a colder clime, occasionally exposed to the severest storms, yet enduring them and thriving, will complete the list of models; and among the British sheep, the Chevoit most deserves to be selected.†

* Baxter's Agricultural Library, p. 453.

† For a very interesting account of this race of Sheep, see Farmers' Cabinet, vol. I., page 150.

From the Papers of the Philadelphia Agricultural Soc.

Hessian Fly.

Sharon, Bucks' county, Pa. Feb. 1, 1826.

Dear Sir,—Among the valuable memoirs of your society, there are several communications relative to the Hessian fly; but none of them sufficiently traces its history, or offers any plan that can be relied on to prevent its ravages. Indeed, it is lamentable, that an insect of its grade could have been suffered so long to have committed such devastation as has been ascribed to it. I, however, trust that its career will soon be closed, having during the last fall had an opportunity of investigating the subject, much to my own satisfaction; and as the society appears to feel a deep interest in it, I will now give you my ideas upon it.

On the 9th of October last, my very intelligent and worthy neighbor, Mr. John Linton, informed me, that on the preceding day, he saw the fly in the act of depositing its eggs upon the leaf of the young wheat in the stubble-field. Taking this valuable and well-timed hint, on the 11th, I went into the stubble field, to witness the interesting spectacle stated by Mr. Linton. I was, however, totally disappointed; not a fly was to be seen; but on examining the plants with a glass, I found the work was completed; an astonishing number of eggs were deposited, scarcely a plant had escaped, and some had more than twenty eggs each. Next day I met with one of the young caterpillars, that had just bursted its shell, and was moving down the leaf: the day after I discovered a plant where the caterpillars had all left the leaf (which I could readily determine by the mark or crust of the egg,) and by carefully stripping down the leaf, I saw them on the stalk, about a dozen in number, and some of them within an inch of the root. On the 18th of the same month, the caterpillars had generally passed from the leaf, and many of them had reached the end of their journey. About the middle of November, in a warm exposure, some of them had changed to the flaxseed or chrysalis state; and at this time the most of them are in that state. During my researches, I found them much the most numerous in stubble fields that had not been pastured, and that grain sown after September, had sustained no damage.

The history of the insect and its larvæ, as far as I have ascertained by actual observation, is as follows:—The fly certainly deposits its eggs in the gutters or furrows of the leaf, on the upper side, from half an inch to an inch or more from the stalk, choosing a position sufficiently exposed to the sun, and affording a sure passage to the stalk, preferring plants having only two leaves fully out; in a few days, probably not exceeding ten, if the weather should be favorable, the eggs (which are oblong, of a brown or somewhat yellow color,) become hatched, and the young caterpillar, of a reddish color, moves down the leaf to its junction with the stalk, then passes between the footstalk of the leaf and body of the plant to near the root, where it is usually seen; it soon afterwards assumes a transparent white appearance, being probably bleached by its covering; (I infer this, because I met with two cases where there was an aperture at its lodgment—it was nearly black) it there feeds on the sap of the plant, until it attains its full growth, and passes into the chrysalis state; it seems only calculated to perform a passage from the leaf to near the root; an outer coat or tegument is there formed, which renders it incapable of further motion; it then appears perfectly at rest, and is mistaken for an egg or nit (its prior state not having been noticed,) and the injury sustained is supposed to be by its pressure upon the stem of the plant, when, in fact, it is a worm actually feeding on its juices: as soon as it changes to the flaxseed color, by rolling it lightly with the finger, the tegument can be taken off, the worm will then appear with a greenish stripe through it, which is evidently the substance extracted from the plant: neither the egg nor young caterpillar, during its movement, can be distinctly seen without a glass; which every farmer ought to have, as it would enable him at all times to know the state of this and other insects. I think it probable, that another deposit of eggs will take place early in the spring, and perhaps a third between that and fall; but this conjecture remains for future investigation.

It appears to me that this insect can be utterly exterminated, by deferring to sow all grains affected by it until the fall deposit takes place; in which case the eggs will be lain on the young plants in the stubble field; then immediately afterwards commence pasturing or burning, which will destroy a large proportion, and any time during the larvæ state (about the first of November the last season would have been a good time, but even now would answer,) plough up the stubble fields well, which will finish the remainder, except such as are among the plants about stack yards, which must also be attended to. I have satisfactorily proven the efficacy of this plan, by ploughing a field where myriads were lodged; but it will probably fail of success, by not being generally gone into at the proper season, and it will be in vain for a few individuals to make the attempt. Let us then endeavor to ascertain that time of sowing which will be attended with most advantages; the first week in October, I have often heard

mentioned, by experienced farmers, as the most safe; but there have been instances of its being too early on account of the fly, and at other seasons too late on account of the winter. We may now, however, guard against the fall deposit, by observing the state of the insect, and sowing accordingly; and should the wheat be sufficiently rooted before winter sets in, I presume the spring deposit need not be dreaded, where the ground is well manured, and the season favorable: for although it will certainly destroy the branch upon which it is lodged, yet, the root being strong, it will throw up other branches sufficient to insure a good crop: nevertheless, we may be disappointed in our calculations, by an early or severe winter, and thereby sustain more damage than we should have done by the fly if sown earlier; besides, should the wheat not be well rooted when the spring deposit is made, it will undoubtedly be seriously injured. Under all these circumstances, I am clearly of opinion, that it would be best to sow the grain as early as possible, not later than the first of September, and immediately on the fly completing its deposit of eggs, (which can easily be known by proper attention,) turn in sheep or cattle sufficient to pasture it close in the course of a week or ten days: if the deposit should not be made before October, (as was the case last season,) the grain will not be injured by pasturing; the cattle, or whatever may be turned in, will be benefitted; and the roots of the plants will then have attained strength to resist the attack of the fly, in case pasturing should prove ineffectual. I can now show roots in the stubble field, that have completely resisted the attack, even where a great number of the larvæ are lodged. If it should so happen that it will be imprudent to pasture, and the ground is not too rough or stony, I would suggest the propriety of rolling, commencing as soon as the eggs are hatched, as the caterpillar is then in a tender state, and while on the leaf or upper part of the stalk might be easily crushed. As a further precaution, I would think it advisable not to sow near a stubble field; but where it cannot be avoided, perhaps sowing rye on that side might have some tendency to preserve the wheat. I conceive it an error to say that any kind of wheat is of that vigorous growth, that the stem will resist the fly; if the fly attacks it at all, it is the root that must be depended on, and it is idle to suppose that sowing oats with wheat (as recommended by some writers,) can have any good effect. This is fully proven by the practice of sowing wheat on oats stubble; the usual complaint is "too much oats," without in the least degree preserving the wheat; besides, I have during the past season, carefully examined the oats, and did not discover a single instance of deposit amongst it. The fly is remarkably sagacious in depositing its progeny, its eggs being exactly fitted to the gutter of the leaf of the plant, where it is very securely lodged. I, therefore, infer, that if there is a kind of wheat which the insect avoids, it must be on account of its leaf being smooth, and not offering a place of safety. I do not know that there is any such kind, but I think it deserves examination. I shall consider it my duty to endeavor to trace the insect and its effects throughout the whole year, and should any thing further appear worth communicating, you may expect to hear from me.

Yours, very respectfully,

JAMES WORTH.

R. VAUX, Esq., Sec. to the Phila. Soc. for promoting Agriculture.

For the Farmers' Cabinet.

Make your Hogs work.

Much has been said in the agricultural publications of the day, and especially in the New England Farmer, on the subject of manure. It is one that claims the attention of every farmer—of every one especially who would excel in the honorable art of husbandry. It may not be amiss at this season, to recapitulate some of the observations on this point, contained in the work referred to. A highly valuable manure, with a little attention, may be obtained from swine—the following is the method: "I usually keep and fatten, says the writer, four hogs in a year; these I keep confined in a yard twenty feet square, with a warm and convenient shed attached thereto as a shelter for them during the night time, and in cold and stormy weather." Into this yard he placed the scrapings of ditches, the dirt that is continually in and about buildings—this became mixed with the straw with which they were littered. The whole was cleared out as often as it was judged expedient. The quantity and quality of the manure would be greatly increased, if the pen was supplied with weeds, (an excellent way this of turning these noxious plants to good account,) and in the absence of weeds, which, by the way, is not very common, even on our best cultivated farms, resort may be had to the woods—here the farmer has an abundance of weeds and other rubbish that may be used to great advantage. The writer states that he has, in this way, with four hogs, made from twenty-five to thirty loads of manure in a year; which, in his judgment, answers a more valuable purpose than that from the stable or barn-yard. He says, "The last spring I planted a field, containing two acres, with corn. One-half of the piece was manured in the hill with ten

loads from the hogpen, the other half with the same quantity of the best manure the barn-yard afforded. A visible difference was to be seen in the growth of the corn through the season, and at the time of harvest the difference was still more discernible. That part manured from the hogpen produced ears generally much larger than that manured from the barn-yard, a great proportion of the stalks bearing two, and many of them three ears each. Having harvested and measured my corn, I found the result to be as follows: the produce of the part manured from the hogpen fifty bushels, while that of the other part was but forty-two bushels, making a difference of eight bushels in favor of the former. I have lately taken twenty-eight loads of strong manure from my hog-yard, which has been collected the past year, and which will be a sufficient quantity to manure two and a half acres in the hill; and should the difference be as great in its favor the next as it has been this year, the extra produce will more than repay the whole expense of making the manure.

Manures may be divided into two classes. The one is called animal and vegetable or putrescent manures. They consist of decayed and decaying animal and vegetable substances. The other class is denominated fossil manures. The last mentioned do not properly constitute the food of plants, although they enter into the composition of vegetables in minute quantities. Fossil manures stimulate plants, and cause them to take their food faster than they otherwise would. They are like what medical men call *condiments*, and answer the same purpose as respects the economy of vegetables, which salt, pepper, spices, &c. effect as regards the animal economy.

Rye.

The farmer who has it in his power to drive his business, instead of being driven by it, will do well to sow his winter rye somewhere between the middle of August and the 15th of September. The advantage of sowing early is, that it is less apt to winter-kill, will require less seed, the growth will be stouter, and the produce greater, other things being equal, than if the sowing was deferred till late in autumn. Foreign writers assure us that winter and spring rye are one and the same species. The editor of the Farmer's Assistant says, "there is but one kind of rye; but this may be made either winter rye, or spring rye, by gradually habituating it to different times of sowing. Take winter rye, for instance, and sow it later and later, each fall, and it may at length be sown in the spring; and then it becomes spring rye. On the contrary, sow spring rye very late in the fall, at first, and you may gradually sow it earlier each succeeding year, until it may even be sown in May, and used the first season for pasture, or mowing, and then grown to perfection the second year. Soils of a sandy or gravelly texture are the most natural for rye. Almost every kind of dry soil is more or less suited to its growth; it will even grow tolerably well in bog meadows, when laid sufficiently dry. It will produce considerably on the poorest soils; and prodigious crops of it may be raised on such as are made very rich, as may be seen from a case reported by Mr. *L'Hommedieu*. A neighbor of his manured twenty square rods of ground with four thousand Monhaddan fish, and sowed it with rye. In the spring, it was twice successively eaten off, close to the ground, by sheep breaking in after it had acquired a height of nine inches the first time, and six inches the latter. These cropings, however, only served to make it grow thicker and stronger than before; and, when harvested, it produced sixteen bushels, or, at the rate of one hundred and twenty-eight bushels to the acre; giving to the owner, according to the calculation of Mr. *L'Hommedieu*, at the rate of eighty-five dollars to the acre of clear profit. He supposes, however, that the crop would have been entirely lost, had it not been twice eaten off by the sheep. It is said that prodigious crops of wheat may be raised in the same manner.

Rye is subject to rust, but seldom or never to smut; nor, indeed, to any other disease that we know of, in this country. M. *Du Hamel* makes mention of a disease it is subject to in France, called the *spur*, which causes a dry gangrene in the extreme parts of the bodies of those who eat the grain thus diseased; so that these parts at length fall off, almost without pain. 'The Hotel Dieu, at Orleans (says this Author) has had many of these miserable objects, who had not any thing more remaining than the bare trunk of the body; and yet lived, in that condition, many days.' The grains thus diseased are larger than the rest, mostly crooked, bitter to the taste, rough, deeply furrowed from end to end, and project considerably beyond their husks. It is not every year, however, that the spur produces these effects in that country; and if the grain be kept some considerable length of time, before it is eaten, it will not prove hurtful. We notice this disease of rye, in order that, if similar effects should ever be produced from it here, the cause of any such malady, and the means of obviating it, may be more readily understood.

Rye may be raised for many years in succession on the same ground, without materially exhausting the soil, particularly if it

be perfectly suitable to the growth of this grain; and provided, also, that the stubble be turned under immediately after taking off the crop. But where the ground is suffered to remain unploughed, till the stubble has become divested of all its moisture, and the seeds of the weeds have ripened, the successive crops will gradually lessen in product, and the weeds will increase. We would, however, by no means recommend such a mode of culture, unless as much as twenty-five bushels, or more of this grain could be yearly had from the acre; as such a yearly product would probably afford a clear profit, to the acre, of half that number of bushels; and such a profit, in some of the lighter, and in some of the harder kinds of soils, is not to be despised. As the soil most suitable for rye is usually that which is most benefitted by the use of gypsum, it would be much the better plan, instead of successive crops of winter rye, to sow this grain, and spring rye alternately, in order that the ground might, every other year, be enriched by the application of this manure. The growing crop of rye receives no benefit from the application of this manure; but it quickly covers the ground with a find sward of white clover; and as soon as ground is thus swarded, it is in good condition for bearing any crop. Let the gypsum, therefore, be sown in the spring on the growing crop of winter rye; and, by the middle of October following, the ground will be covered with white clover; turn this sward over in the latter end of the fall, and in the spring sow a crop of spring rye; and as soon as this is taken off, turn the ground over again for a crop of winter rye; and in the spring repeat the process of manuring with gypsum, as before, for a crop of spring rye, and thus proceed with these crops alternately. In this way, we will venture to say, that nearly double the amount of grain might be obtained in each crop; particularly in the northerly part of our country, where spring rye is nearly as productive as that of winter. In such a mode of culture, however, particular attention should be paid to turning under the stubble of the crop of spring rye as quick as possible, in order that the seeds of the growing weeds be prevented from ripening, as well as for enabling other seeds, which may lie buried in the soil, to vegetate, and thus be destroyed by the after ploughing and harrowing for putting in the next crop.

Many farmers may have pieces of hard gravelly, or very light sandy soil, for which such a mode of culture might probably be found as profitable as any to which the land could be applied. But of this, the judicious farmer will be best enabled to judge, after obtaining a full knowledge of what mode of culture is most profitable for his more sterile grounds; and in order to this, he must estimate the expenses of putting in his crops; the clear profits, after paying these expenses, and the rent of the land; and, whether his lands are likely to become, eventually, more exhausted by such mode of culture, than by a change of crops, where grasses suitable to the soil, should be cultivated during some seasons. Where winter rye is early sown, a bushel to the acre is probably sufficient; but of spring rye, a bushel and a half to the acre, or perhaps more should be sown.

Rye intended for family use, should be harvested as early as the grain can be prevented from shrinking, and let lie on the ground a day or two to harden. In this way, the grain will make much whiter flour; though, perhaps, the product will not be quite so heavy and bulky, as when left till fully ripened. Probably all that is gained by letting the grain fully ripen, before harvesting, is an additional thickness of the skin; thereby increasing the quantity of bran, but not of flour.

Breaking up Grass Lands.

The Code of Agriculture has some general remarks on this subject, which we insert as the experience of the best agriculturists.

If the land be wet, it is advisable to drain it completely, previous to its being broken up.

Land that has been long in pasture, does not require dung during the first course of crops that is taken after being broken up, but the application of calcareous manure, is always, in such cases, expedient. Sometimes lime is spread on the ground before it is ploughed; at other times, marl and chalk have been used for the same purpose, with great advantage. The land thence derives additional strength and vigor; the succeeding crops are much improved; the soil is commonly so softened in its texture, that it may be ploughed with half the strength that would otherwise be necessary, and whenever it is restored to grass, the herbage is abundant.

Wherever the soil is not too shallow, nor of a friable nature, or when the turf cannot soon be rolled, if land is to be broken up from old pasture, paring and burning is the proper system to be adopted. In this way, good tilth is speedily procured; the damage that might otherwise be sustained by the grub, the wire worm and other insects, is prevented while the soil receives a stimulus, which ensures an abundant crop.

When paring and burning, from any circumstance, cannot take place, the land may be trenched, or double-ploughed. This is effected by means of two ploughs following each other, the first plough taking off a thin

surface of about three inches, and the second going deeper in the same place, covering the surface sod with fine mould; both furrows not exceeding the thickness of the vegetable mould, or other good soil.

If the land is ploughed with one furrow, the operation ought to be performed before winter, that it may receive the benefit of the succeeding frosts, by which the success of the future operations will not only be promoted, but most of the insects lodged in the soil will be destroyed.

When one furrow alone is taken, the best size is four inches and a half deep, by eight or nine wide. The strain on horses, in ploughing lay land, is mostly from the depth.

The rotation of crops to be adopted, when grass lands are broken up, must partly depend upon the soil, and partly on the manner in which it is prepared for cultivation. As a general principle, however, it may be laid down, that unless by the course of cropping to be pursued, the bad grasses and other plants indigenous in the soil, are extirpated, they will, when the land is again laid down to grass, increase and prevail with more rapidity and effect, than the seeds chosen by the farmer; and the consequence must be, a heavy disappointment in the future crops of grass, perhaps solely, or at least principally attributable, to a previously defective management.

Sugar Beet.

D. L. Child, Esq., agent of a Sugar Beet Company in Illinois, writes from France:

The most interesting aspect of the Beet Sugar business, is its bearing upon agriculture and rural economy.

1. It enriches the land, both as an excellent substitute for fallowing, and as producing an immense quantity of capital manure.

2. It has the latter effect in various ways, but principally by feeding a large number of cattle and sheep. The former are fattened in three to three and a half months, and in a manner that is really superb. So fine specimens of beef creatures are seldom seen in the United States, after six months of the best pasturing and stall feeding. The sheep are fattened in six weeks. At the manufactory where I have been, they pay on an average, about six louis for cattle, and sell them for about eleven. A louis is about for $4 37. I suppose that this branch of the business would be quite as lucrative in the United States, where stock animals may be bought somewhat cheaper. This, you see, is doubling capital three times a year, with the help, however, of the pulp or pumice of the beet. This can be kept good any desirable length of time. It is sold here at 10 cents the cwt.

3. The profit of raising the beets is very great; according to estimates which I have from the most intelligent sources, I do not find it so high as Mr. Pedder did. My data make the nett gain in France, after paying rent, ploughing, weeding, hoeing, digging, and preserving, 404 francs per hectare. This measure is a trifle over two English acres. Consequently the profit of cultivating beets on an acre, will be 202 francs—about $38. Can you wonder that land has risen from fifty to one hundred and fifty per cent. in the districts of the sugar manufactories. The wages of labor for cultivating and manufacturing the produce of an hectare, amount to $56 81. This would give for one hundred acres, $2,840 nearly; and for 400, which would be the quantity required for the largest establishments, $11,830, to say nothing of the profits of the proprietor, or lease holder, when he and the laborer are one and the same. In this case, besides getting pay for his labor, he would receive $38 profit per acre. Wages will be higher in America, and the profits of the laborer and proprietor still more encouraging. In one manufactory which I visited, two-thirds of the hands were women, who are paid much less than men. But there is no reason why it should be so, for they do just as much work, and just as well as men. They do the principal part of the weeding and dressing of the crop every where."

Beet Sugar.

A new process has been discovered at Strasburg, by means of which a white crystallised sugar is produced in twelve hours from beet root, and which does not require any further refining. This invention is the more curious as neither any acids or chemical agency is employed in this remarkable operation and the use of animal blood is entirely dispensed with. It has also the advantage of saving twenty-five per cent. in the consumption of fuel. The new process is also applicable in all the present manufactories of sugar, with the exception of those upon the principle of dessication of the beet root. The inventor is M. Edward Stolle, who, though not more than twenty-five years of age, is already highly distinguished for his experiments in chemistry, and his works in polite literature.

The Erie Observer says that choice fruit can be obtained in a shorter way than by grafting. It consists in *planting* instead of grafting. The limb of an appletree cut in the spring of the year, at the usual time of trimming, with the cut end stuck into a potatoe, and planted in the ground, is more likely to grow and become a thrifty tree than a graft inserted in the usual manner.

Profitable Dairy.

The dairy business having become so important a branch in the department of the agriculturist, that I feel it my duty to communicate the result of one of my farmers, a gentleman by the name of John Bush. He had fourteen cows of the common country breed, but better, on account of being better fed. He raised six calves, which were fed on milk ten weeks.

Made 2342 lbs. of first quality cheese, which sold at $8 per hundred,	$187 36
Made of butter, 1591 lbs., the average price, 19 cents,	302 29
Six calves at $3 a head,	18 00
	$507 65
Ten hogs fed on skimmed milk and whey, worth say, $3 per head,	30 00
	$537 65
Hay and pasture for the 14 cows, at $10 per head,	140 00
Nett proceeds,	$397 65
The average per head,	28 40

Such were the returns from a lot of cows that cost $20 a head.

Mrs. Bush pursued the old fashioned way, by skimming the milk and churning the cream, and our friends in Ithaca preferred her butter to any other brought to that market.

We have tried the method of making butter in winter by heating the milk in the pans after straining, to 130 Fahrenheit thermometer; the quality is a little improved, the quantity more, and the labor of churning is less than one half the time required in the old way.

The washing of butter in cold hard water, or soft, when taken from the churn, we think injurious to the quality of it, and takes from it that peculiar flavor which we so highly prize. If you think the above statements will be useful, let them find a place in your Genesee Farmer.

LEWIS BEERS.

Rasping Machine.

In Thorndike we saw a very simple apparatus for grinding or rasping apples, to make cider, which we thought would answer very well for rasping beets. It consisted of a short cylinder, about 8 or ten inches in diameter, in which were driven bits of wire or headless board nails, in columns, about three or four inches apart, running spirally, lengthwise of the cylinder, and the nails or wires separated, perhaps a quarter of an inch. This is made to revolve at the bottom of a hopper, and close to a hard facing on one side. The apples are crushed between the teeth on the cylinder and the hard facing, at the rate of about one bushel per minute. This apparatus is carried by water. It is owned by Capt. Timothy Ferrel, a very large farmer. The same water machinery is made to turn a grindstone and churn butter. A long lever, swung in the middle, which can be connected with the grindstone crank balances up and down and plies the churn dasher at the other end. The butter from a large churn full of cream can be extracted in about five minutes. The water power is nothing but a little babbling brook, but Yankee ingenuity has compelled it to well work its way to a larger stream—to water horses, grind apples, turn grindstone, churn butter, and irrigate a fine home-lot.—*Hampshire Gazette.*

Farmer's Work for August.

SECURE THE PRODUCTS OF HARVEST.—The Baltimore Farmer advises as follows: "After your harvesting shall have been completed, then turn your attention to getting out your grain for market. The sooner that is done the less you will lose by vermin, and in nine times out of ten, you will find that your grain will command as good a price at this season of the year, as any other. Besides, the sooner the better this necessary work is off your hand, as being relieved of it, you will be able to avail yourself of circumstances as they occur, and thus turn every thing to the best advantage.

At a late Agricultural meeting in this town, the Rev. Mr. Barastow stated a fact which should be more extensively known. He, last year, bargained to let his few acres for the season, but the man objected to half an acre of sandy land, as not worth cultivating. "Very well," said Mr. B., "I will take care of that myself." He planted it with yellow corn, having only a thin coat of manure, the last of April—covered it double the usual depth, so that the root was safe, while the frost nipped the top off once or twice. When it was fit to hoe, he spread around each cluster of stalks one-third of a pint of house ashes. In the fall he husked from the half acre, seventy bushels of sound ears.—*Keene Sent.*

The wheat harvest in the upper part of South Carolina is now over, and the crop has proved very good. A Greenville paper says, "it has certainly been many years since the harvest throughout the Southern states has yielded so abundantly, or so large and beautiful grain."

ARTICLES.	Philadelphia, Aug. 29.	Baltimore. Aug. 28.	New York, Aug. 28.	Boston, Aug. 23.
Beans, white, per bush.	$1 37–1 62½	1 25—1 50	0 00—0 00	1 37—1 75
Beef, mess, new, per bbl.	14 00–15 00	13 00–14 00	13 50–14 50	15 00–15 50
Bacon, western, per lb.	8½— 10	7— 9	8— 10	.....
Butter, extra, per tub	12— 13	16— 20	18— 20	17— 22
Butter, fresh, per lb. (market,)	18— 25	20— 25	25— 31	24— 31
Hams, per lb.	12— 15	10— 13	12— 14½	10— 12
Hog's Lard, per lb.	11— 12½	9— 10	9— 10½	9— 10
Cheese, American, per lb.	10— 10½	9— 11	7— 9½	9— 13
Beeswax, yellow, per lb.	25— 26	23— 25	23— 25	26— 29
Beeswax, white,	.....	38— 40	38— 40	38— 40
Bristles, American,	42— 65	25— 65	25— 65	.....
Flax, American,	8½— 9	9— 10	9—	9— 12
Flour, best, per bbl.	8 25—9 00	7 87—8 50	8 00—9 25	9 00—9 25
GRAIN—Wheat, per bush. Penna.	1 70—1 90	1 75—1 81	1 80—1 85	.....
do. Maryland,	1 60—1 75	1 25—1 65	1 74—1 75	.....
Rye, per bushel,	85— 95	65— 75	—1 00	1 05—0 00
Corn, do.	98—1 07	92—1 02	1 00—1 05	1 10—1 12
Oats, do.	40— 48	36—	52— 65	00— 00
Barley, do. Penn.	.....	.....	1 06—	1 00—1 10
Peas do.	1 00—1 25	87—1 00	—	.....
HAY, Timothy, per 100 lbs.	75—1 10	00 00–00 00	.....	20 00 pr ton.
Meadow Grass,	70— 80	.....	.....	.....
Hemp, American dry rot, ton,	175 00–	0— 0	130 —140	.....
Hops, first sort, 1836, lb.	7— 8	— 9	4½— 6	6— 7
Plaster Paris, per ton,	3 25—3 37½	4 00—	.....	2 00—2 25
SEEDS—Cloverseed, per bushel,	5 50—6 00	6 00—6 50	.....	.....
Flaxseed, rough, do.	1 35—1 40	1 37—1 50	.....	.....
Timothy,	2 —	3 00—3 50	.....	2 87—3 00
Tallow, per lb.	8½— 9	— 11	8¾— 9	10— 11
WOOL—Saxony, fleece, per lb.	00— 00	40— 50	50— 68	.....
Merino,	00— 00	35— 40	50— 58	.....
1-4 and common,	00— 00	25— 30	40— 50	.....

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